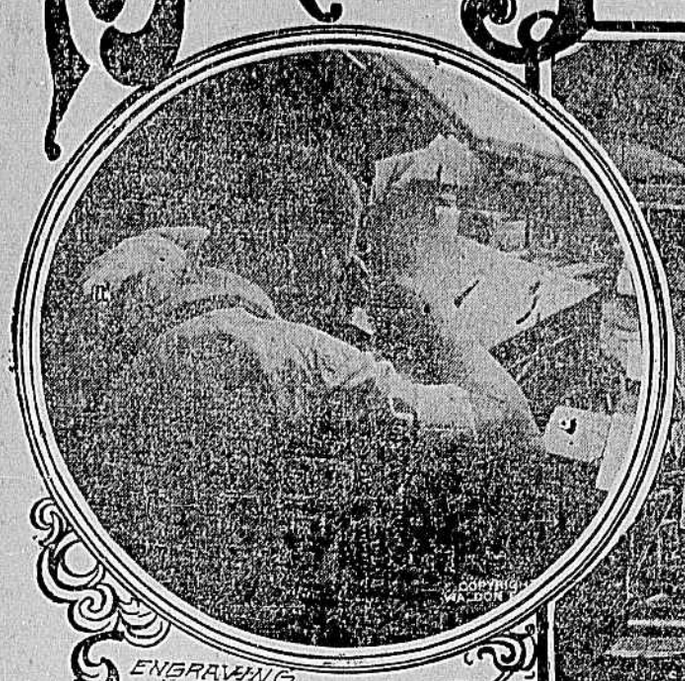
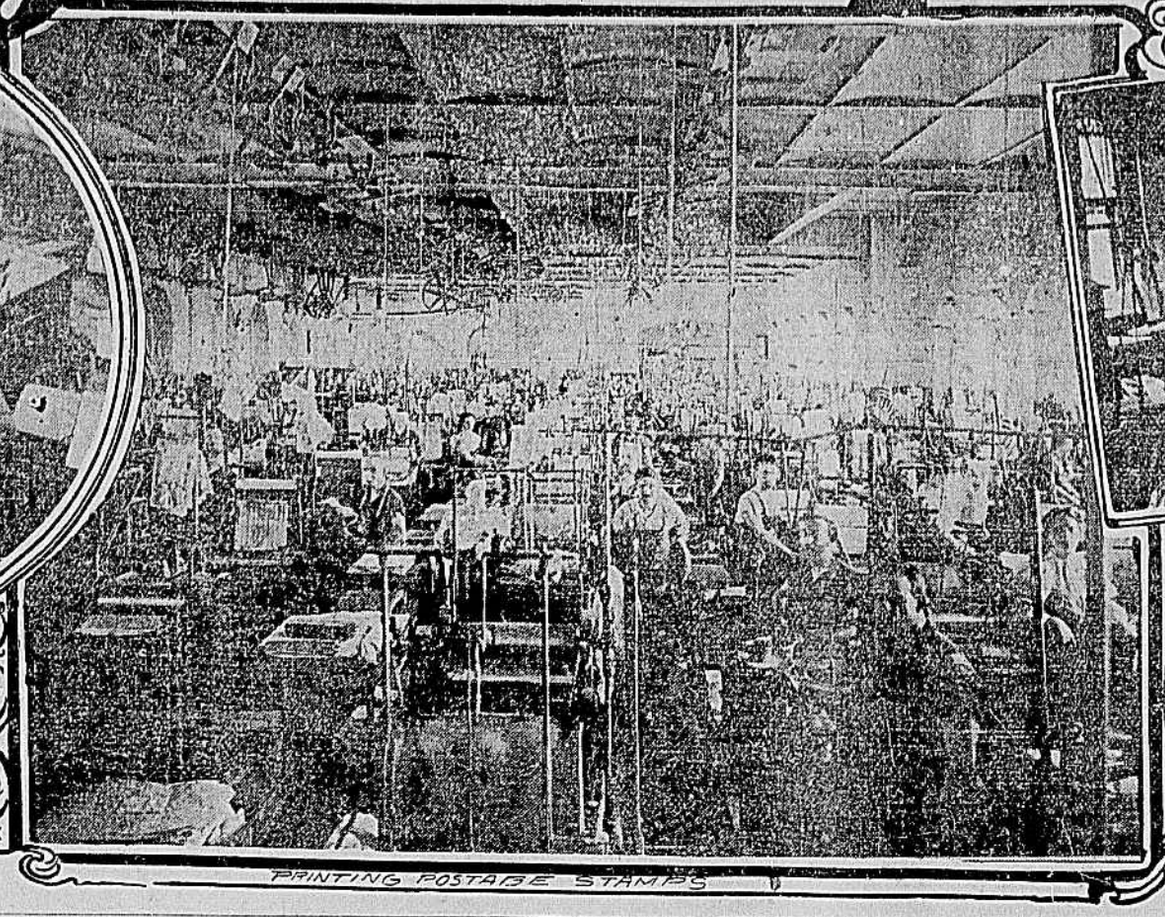
MAKING JAMESTOWN EXPOSITION STAMPS



ENGRAVING POSTAGE STAMPS



PRINTING POSTAGE STAMPS

PERFORATING THE JAMESTOWN STAMPS

GUMMING THE STAMPS

BY WALDON FAWCETT.

Uncle Sam is now busy on one of the heaviest "rush orders" for printing that has ever engaged the attention of the national government. The task is that of providing in a limited space of time an aggregate of more than thirty-two million special postage stamps commemorative of the Jamestown Exposition. The work is being performed at the unique institution at Washington, the United States Bureau of Engraving and Printing, where a large proportion of the 2,300 employes have a hand in the manufacture of these special souvenirs of the mails.

The reason for the rather unusual haste was found in the fact that work did not begin on these special stamps until nearer the date set for the Exposition than has usually been the case when the Government put out a special series of stamps in honor of an international exhibition. Yet the stamps must needs be printed, packed and shipped so that they could be placed on sale at every post-office in the United States by the opening week of the big show.

Not Displace Regulars.

It should, perhaps, be explained just here that these extra stamps in honor of Virginia's notable event will not wholly displace the regular issue. The latter will still be kept on sale at all post-offices, but any applicant can secure the special Exposition stamps by expressing a preference for them and it is anticipated that in Virginia and adjacent States the memorial stamps will be used almost exclusively. The advent of the new additions to the currency of the mails has also been awaited eagerly by stamp collectors in all parts of the country.

Three Varieties.

There are three varieties of special Jamestown stamps of which varying quantities are being printed as a "first order." Of the one-cent stamp, which is printed in green and bears a portrait of Capt. John Smith, ten million copies are being turned out. The two-cent carmine stamp, which bears a descriptive scene entitled "The Founding of Jamestown," will presumably be the most extensively used, and of this the initial order is fourteen million. The five-cent stamp, bearing the representation of Pocahontas, will presumably be employed almost exclusively for prepaying letters sent to foreign countries, and eight million of these stamps is deemed sufficient as a starter. The printing of these special stamps in the same colors as the corresponding denominations of the regular series has resulted in an immense saving of time, since to change the color of the ink on the presses is no small chore.

The process of manufacturing the Exposition stamps as carried on at the great red brick building on the banks of the Potomac River is a most interesting one. The first step in the production of these Tercentennial stamps was the preparation of the designs in the form of water-color sketches,—magnified, of course, to several times the size of the intended stamps. After the approval of these preliminary sketches the paintings were turned over to the engravers at the Bureau to be graven in steel.

Work of Experts.

The men who have been engaged in engraving the printing plates for the Jamestown stamps are among the most expert workers to be found in this branch of the art world. Some of them receive salaries of $6,000 per year. Skillful as are these masters of their craft, no one engraver was entrusted with the entire task of turning out a postage stamp design complete. Instead the work was apportioned among a number of engravers, each a specialist in one particular line. Thus one man engraved the portrait on the one-cent stamp, while a second supplied the vignetting and a third did the lettering. Thus each of the three stamp designs is a composite production.

Only one steel engraving of each of the three denominations was made, but of course, it would not do to use this original plate for printing purposes, as is done when a plate is engraved for a lady's visiting card, or a wedding invitation. There are a number of reasons why the original stamp plate could not be thus utilized, but two of them will suffice to make the situation clear to the reader. In the first place, an engraved plate such as is produced at the Bureau of Engraving and Printing, although it is formed of the hardest of steel cannot be used for more than 80,000 impressions ere it begins to show wear, so that naturally the government could not limit its resources to one printing plate of a kind which would soon wear out. Secondly, there is the necessity for printing vast numbers of stamps at each operation. If one printing press using the single original plate were to attempt to get out the Exposition order of postage stamps, printing one at a time, it would require years of work. Instead the stamps are printed in sheets of four hundred of a denomination, and hundreds of presses are in operation simultaneously turning out these sheets.

Many Duplicates Made.

However, the one original engraved block is made the means of providing printing plates for all these different presses, and it is done in this manner. By means of heavy pressure the image of the original engraving is reproduced on soft steel, and this transfer is repeated as often as desired. The soft steel bearing the impressed design is then hurried away to a furnace, where it is baked at white heat and then plunged in a bath of oil, from which it emerges almost as hard as a diamond. It is from these replicas, then, that the actual printing of the stamps is done, and since the original plate is always available, new replicas may be secured as rapidly as those in use on the printing presses wear out and have to be discarded.

The Jamestown stamps are being printed on rather antiquated hand presses that look very much like those which the discoverers of the art of printing employed in Europe many centuries ago. There are more than two hundred of these presses in the main press room at the Bureau—the famous "bee hive"—where the machines are set so close together that a person can scarce move about. Each press is in charge of two employes, a man and a woman.

How They Are Printed.

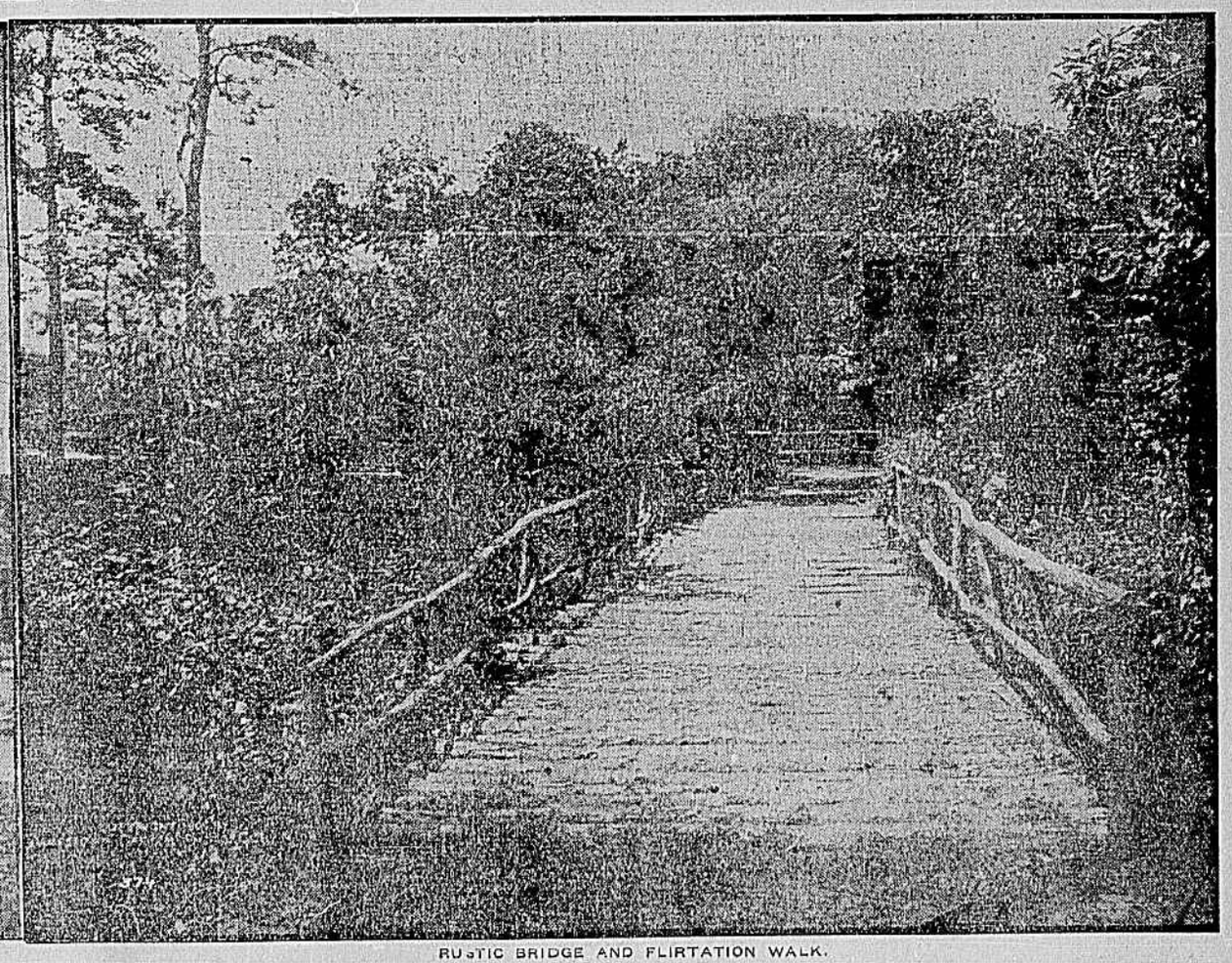
The man known as the plate printer inks the printing plate for each impression and gives the turn of the long armed wheel that applies the pressure needed for printing. The girl assists him by removing the printed sheet and supplying in its place a fresh, blank sheet of paper. The printers work with almost incredible rapidity, for they are paid on the "piece-work" basis, and it is nothing unusual for an expert printer to turn out each day 1,200 sheets, or nearly half a million stamps, thus earning for himself the handsome wage of $8.

After the stamps are printed the sheets, fresh with ink, are sent to a drying room, where they remain for some time. Then they pass to the gumming division, where a coating of mucilage is applied to the back of each sheet. This task is performed largely by wonderful automatic machines, which by means of a glass roller apply just the proper quantity of adhesive, drawn from a tank above. Then the sheets are whisked through wooden tunnels, each fifty feet long, and in which a temperature of 130 degrees is maintained. From these they emerge with the mucilage thoroughly dry. The Jamestown stamps are being coated with a hard grade of gum, which it is believed will not be affected by the summer heat.

The next step in the journey of the postage stamps carries the sheets to the perforating department, where they are run through machines bristling with innumerable needles, which, with lightning-like rapidity but with marvelous accuracy, puncture the lines of tiny holes which seperate the stamps in the form that they reach the public. Meanwhile the sheets have been carefully scrutinized for defects in printing and any blurred or otherwise imperfect specimens are thrown out and destroyed. Uncle Sam surrounds the manufacture of his postage stamps with every precaution against loss through careless or dishonest employes, and every sheet of Exposition stamps is counted fifty-four times,—that is, by fifty-four different persons,—ere it is packed up and shipped to the post-office where the bits of paper will be passed out to the public.

GREAT PROGRESS BEING MADE AT JAMESTOWN EXPOSITION

ENTRANCE TO WARPATH.



RUSTIC BRIDGE AND FLIRTATION WALK.

By JAMES TAYLOR ROBERTSON.

NORFOLK, VA., April 13.—From the astonishing daily progress now being made on the grounds and buildings of the Jamestown Ter-Centennial Exposition, which will be formally opened April 26th by President Roosevelt, on Hampton Roads, near the city of Norfolk, it may be said with practical certainty that everything will be in readiness on the opening date, and when the President presses the gold button which will put all the machinery of the Exposition in motion, nothing will be lacking to mar the opening ceremonies.

Thousands of workmen and carpenters are busy from morning till night putting the finishing touches on the many buildings and removing the debris. Road machines are cutting and levelling the streets and avenues, while the last of the concrete walks are being laid.

On the government pier work never ceases. Hundreds of skilled laborers are putting up frames and pouring in the cement, which, "setting" in a few days, makes an impregnable front to the turbulant waves of the Roads. All the piles have been driven, and this was the slowest, most tedious part of the work. Rails have recently been laid out over them, and now every few minutes a long line of cars bearing cement, tools for the workmen, etc., may be seen winding its way out over the trestle-work.

In the basin made by the horns of the pier, several enormous steam dredges are deepening the channel, every day removing hundreds of yards of sand, mud and gravel.

The Warpath.

On the Warpath the most remarkable progress of all is being made. It is here that buildings cover one night what the morning before was merely a vacant lot. Scores of side-shows, restaurants, lunch booths are going up in every direction. Many are finished and open. Others are being painted, while still others have just been begun.

On these last, however, double and sometimes, treble forces are working, it being the aim of all to have everything finished several days before the opening date.

The location of the different State buildings is along the water front, thus affording visitors an unobstructed view of the great marine picture of Hampton Roads, on the waters of which will be held one of the greatest naval reviews ever conducted in the history of the world.

With twenty-five of these State palaces, finished with the heavy colonial architecture of which the Exposition will be characteristic, the grand auditorium and many exhibit buildings, a perfect multitude of amusement buildings for a background and the magnificient pier stretching out in front of them, the aggregation of structures will give completeness to a scheme of architectural unity more imposing than that of any previous Exposition in the United States.

Great Naval Display.

One of the most popular exhibits at the World's Fair in Chicago, in 1893, was an imitation battleship built upon piles in the lake, the cost and presentation of which was credited as an asset of the Exposition. (And it was a faithful representation and worthy.) The World's Fair at Jamestown, however, will offer its visitors over one hundred of the finest and most costly ships from all countries—not on piers, but each a little world in itself, teeming with its officers and crew and bristling with guns, the combined power of which would well-nigh split the world in twain.

When this immense gathering of battleships, representing the naval strength of all nations, drops anchor before the sea-gates of the Exposition, its splendid distinction will never have been equaled.

As in preparation for a great struggle, the outcome of which would decide the destiny of the nations, this horde of death-dealing, peace-compelling, monsters will form by fleets and squadrons upon the waters of the harbor, with their many colored flags fluttering and their brilliant armament shining gold in the sunlight.

These will pass in review before President Roosevelt, each vessel firing a heavy salute, making the quiet waters ring with their thunder.

Denatured Alcohol.

One of the buildings recently begun, but now so well under way that its completion is merely a matter of a week or so, is that which will house the power and alcohol exhibits.

The work done in the scientific world during the last few years has been perhaps greater in this line than in any other branch. The efficiency of electricity as an agent for power was demonstrated at the Pan-American Exposition, in Buffalo. The efficiency of denatured alcohol as a heat, light and power producer will be demonstrated at the Jamestown Exposition, and the tests will show all domestic and industrial uses to which the alcohol might be put.

The experiments will be under the direction of Dr. Charles E. Monroe, professor of chemistry at George Washington University, and chief of the special denatured alcohol exhibits at the Exposition.

Dr. Monroe has perfected extensive plans for the display and exploitation of the alcohol, and has just completed a series of tests embracing the application of this agent in several branches of the varied industries. This work has received the endorsement and co-operation of the National Alcohol Association, which has appointed a special commissioner to assist Dr. Monroe in his work.

It has been found by many satisfactory tests that denatured alcohol is an efficient agent, when burned, for generating heat and light, and when exploded in an internal combustion engine is equally effective in producing power.

Already a large number of lamps have been invented for household use, in which incandescent mantles replace the wicks used in kerosene oil burners. This alone proves that the farmers, who are unable to procure the oil, gas or electricity can have a light superior to that of kerosene oil, for when these incandescent mantle lamps are filled with the alcohol, a soft, brilliant, odorless light is produced better than that produced by any of the other mediums.

From the standpoint of power, it has been shown that with the proper equipment, alcohol surpasses gasolene and steam in efficiency. It is probable that not many years will elapse before all the gasolene engines and automobels in the country will be operated by means of alcohol, which it has been proven, can be manufactured from a great variety of vegetables and mineral products at a very low rate of expense.

Its importance as a source of revenue to the United States is at present the chief consideration of the Department of Agriculture, which is working on the proposition of having the tax reduced. Dr. Galloway, who has charge of the work, has sent a number of experts to Europe to make a study of the stock potato, which is grown very generally there. Its value as a food is comparatively small, but its yield per acre in alcohol is immense, producing from five to six hundred gallons. This means that one acre in stock potatoes would supply the average family in this climate with heat, light and power for over a year.

The cost of making the refined alcohol is about twenty-five cents a gallon, but the revenue tax of $1.10 has prevented its extensive use.

It is for the purpose of convincing the government of the vast efficiency of this product that this exhibit will be exploited, and it is probable that when its possibilities are made public through tests and experiments Congress will greatly reduce the tax, thus making it possible for every one to purchase it at a very low figure.

In addition to showing its possibilities, the tests conducted at the Exposition will also demonstrate its manufacture, all kinds of materials, such as cornstalks, cobs, beet stems, etc., being tried for their alcohol-producing capacities.

Historic Laws.

Another department of the Exposition which is receiving the greatest care and attention is that of history and education. In the selection of the site the Exposition Company could not have found a place of more historic significance in the western hemisphere.

The government of the United States received its impulse from Virginia, and Virginia, in turn, was cradled on Jamestown Island, where for many months the fate of the colony hung in the balance, where were fought some of the bloodiest fights with the Indians, and where, finally, the first legislative assembly on the American continent was held.

Among the most important exhibits in the department of history will be copies of the first criminal code of the Jamestown colony, which for strength and severity was probably never equaled by any system in the world.

After the departure of Lord Delaware from the colony the settlers fell into ways of vice and idleness, which threatened to wreck the venture utterly, and thus it came to pass that the London Company, being appealed to by the thrifty members of the colony, drew up the following precepts, a copy of which was nailed to the Jamestown church door in May, 1611:

"Speaking against the Trinity or articles of Christian faith—Death.

"Blasphemy against God—First offense, severe whipping; second offense,

(Continued on Fourth Page.)